Received from Rim Bishop on July 23, 2002
Would you see that the following comments are forwarded to the appropriate SFWMD staff member please?

1. Page 1, third line from bottom - The probably should be something between "River and" and "occur."
2. Page 12, paragraph one under Pre-Development Hydrology - The word "conditions" is misspelled.
3. Page 13, paragraph 2, second to last line - "if" should be "of."
4. Page 32, second to last paragraph - To which wellfields was water diverted? How much, and how often was it taken? Why report Lox River District flow at gallons per hour, why not gallons per day?
5. Page 34, last paragraph - The opening sentence makes it sound like the C-14 feeds the Lox Slough. To the best of our knowledge, it does not.
6. Page 44, second to last paragraph - More detail, e.g. specific user allocations, should be provided.
7. Page 56 - "Wellfield Pumping" section - Shouldn't there be something after the last word of this section?
8. Page 61, table 13 - Use periods consistently within the table.
9. Figure 14 - It is difficult to understand why the watershed is deemed to include areas east of Military Trail and south of Indiantown Road.
10. Page 64 - Given the limited permeability of soils beneath the C-18, the "potential influence" should be discussed in greater detail. In fact, there is very little if any such potential.
11. Page 66, first paragraph - The word "available" is misspelled.
12. Page 95, paragraph beginning "Figure F-4" - "is located" should have a space between the words, and the word "Fork" should probably follow "Northwest."
13. Page 104 - There is no appendix "O" or "I", and we would very much like to review these before the report is finalized.
14. Page 107, first paragraph - My recollection is that the Northern Palm Beach County Water Resource Plan had done a more complete job of quantifying these impacts than this section implies.
15. Page 162 - Seacoast renews its concern, expressed in comments offered earlier to SFWMD, that the concept of "indirect withdrawal" is not technologically defensible and allows SFWMD far too much discretion.

We hope that you find these comments useful, and we look forward to reviewing a subsequent draft prior to adoption.

Thank you.

Rim Bishop
Seacoast Utility Authority
4200 Hood Road
Palm Beach Gardens, FL 33410

Received from Rim Bishop on July 25, 2002
We are pleased to help with the editorial aspects of the report, but we respectfully note that in the past, our spelling and punctuation comments were the only ones that appear to have been incorporated in subsequent drafts. We believe that there is a very important and clearly unintended factual misrepresentation in this draft that must be addressed.

I am sending the same comments again to draw your attention to comment no. 9 below, and to strongly suggest that the Loxahatchee River watershed boundaries established in this draft are simply wrong. Unless a reasonable scientific case can be made for including areas south of Indiantown Road and east of Military Trail, those areas, at minimum, should be excluded.

Rainfall in this area does not, can not, and, under the plans of which we are aware, will not find its way to a point upstream of the Loxahatchee River salt water interface. It all goes to tide well downstream of that point, and I'm reasonably certain that at least as much flows south (away from the estuary) as flows north. Accordingly, the area simply can not contribute any storm water to the restoration program, and it therefore is not part of the watershed.

Further, one can not scientifically link ground water withdrawals originating south of Indiantown Road and east of Military Trail to the Loxahatchee River watershed. It seems that doing so would require evidence that ground water withdrawn from this area would otherwise make its way to a point in the river upstream of the salt water interface, and that simply is not the case. Accordingly, since the area has no identifiable hydraulic connection to the Loxahatchee River, it should not be part of the watershed.

Please either provide scientific support for including this area in the watershed or revise the report to exclude it. This is a relatively small item, and correcting the report as noted takes nothing away from the central message.

We look forward to your response. Thank you again for the opportunity to comment.

Would you see that the following comments are forwarded to the appropriate SFWMD staff member please?

1. Page 1, third line from bottom - The probably should be something between "River and" and "occur."
2. Page 12, paragraph one under Pre-Development Hydrology - The word "conditions" is misspelled.
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15. Page 162 - Seacoast renews its concern, expressed in comments offered earlier to SFWMD, that the concept of "indirect withdrawal" is not technologically defensible and allows SFWMD far too much discretion.

We hope that you find these comments useful, and we look forward to reviewing a subsequent draft prior to adoption.

Thank you.

Rim Bishop
Seacoast Utility Authority
4200 Hood Road
Palm Beach Gardens, FL 33410

Received from Rim Bishop on August 5, 2002
John,

Here are some preliminary comments on Exhibit O. I have handwritten markups as well that I will mail you this week.

For emphasis, I note that the demand figures noted for Seacoast are simply wrong, consistently higher by far than the actual records on file with SFWMD indicate. We have attempted to correct them where we can, and we are anxious to assist SFWMD staff in finding ways to incorporate our input.

Thank you so much for the opportunity to participate in this most important process. We deeply appreciate your responsiveness to date, and we look forward to reviewing a subsequent draft. Please do not hesitate to call if any of the comments are unclear.

Received from Rim Bishop on August 5, 2002

Seacoast Utility Authority comments to draft Exhibit "O" to the draft ***Technical Documentation to Support Development of Minimum Flows and Levels for the Loxahatchee River and Estuary***

OVERVIEW

Appendix O gives no indication of having accounted for some 15 million gallons per day of reclaimed water that is currently applied within the watershed during the driest of weather, nor the fact that this volume is likely to double within the next 15 years. The point about how dramatically water consumption will increase is clearly made however. Our recommendation would be to adjust both the editorial and numerical content of the report accordingly. SFWMD has all the data, but in case it has been misplaced, Seacoast will resubmit its figures if necessary. To do this, one might start with figures currently being compiled for the SFWMD Northern Palm Beach County Reclaimed Water Master Plan.

The author should make certain that all references and figures in this appendix are confined to the Loxahatchee River watershed and to surface water or surficial aquifer supplies. Including demands that will be met from the Floridan aquifer or overstating surficial aquifer demands, if that is what has been done, is misleading. For example, the Hood Road wellfield is the only Seacoast water supply source located within the area identified as the watershed, but some of the reported flow figures appear to include water from other Seacoast wellfields. Conversely, the report appears to identify the West Palm Beach Water Catchment area as lying within the watershed; are the City's water supply demands included as well? If not, this inconsistency should be remedied.

SFWMD taxpayers can take heart in the agency's very conservative approach to water resource planning. This draft continues the tradition of inadvertently (but consistently) overstating Seacoast's consumptive use demands. Be assured that when the day comes that SFWMD errs on the low side, we will offer corrections with equal enthusiasm and vigor. We hope that you will review and incorporate the figures that we have revised, and we are prepared to offer supporting documentation should you require it.

Finally, we renew our objection to including any lands east of Military Trail and south of Indiantown Road within the Loxahatchee River watershed. Except as confined by the law of conservation of matter and the fact that water molecules found in both areas contain both hydrogen and oxygen (which characteristics similarly apply to the polar ice caps), there is no connection. We have explained this perspective earlier and are anxious to meet with SFWMD staff if after further consideration, they disagree.

PAGE O-1

First Paragraph – Is the West Palm Beach Water Catchment area in the defined watershed? If so, the City's water demands should be included.

There should be a comma after the word "Watershed" in line three.

Second Paragraph – The 1995 demands outlined may have been LEC planning figures, but they are wrong. In 1995, the Hood Road wellfield withdrawal was 3,536 MG, not the 5,274 MG you show (see SFWMD pumpage reports). We fail to see the relevance of converting these figures to acre-feet.

It is the Village of Tequesta, not the Town of Tequesta.

Page O-2

Summary of Data …

First paragraph – Based on actual experience through multiple droughts, there is little evidence to support the statement that this area is any more susceptible to salt water intrusion than any other coastal area, including those with a connection to the regional conveyance system.

Second paragraph – One might get the impression that public water supply demand supplied from the watershed was 82.2 MGD in 1995 and will be 128.6 MGD in 2020. Is that annual average day? All from the surficial aquifer system? More definition and support for these figures is needed – we can't tie back to them based on what we know about Seacoast's needs and the needs of its neighbors.

Page O-3

Figure O-1 – Because Seacoast's flow has been incorrectly identified, this table will need to be recalculated. We do not see the need for this analysis at all.

Last paragraph – Again, the only Seacoast wellfield located within your definition of the watershed is the Hood Road wellfield. In 1999, that wellfield pumped 12,683 acre-feet (if you must use that unit of measure), not 21,631 as you suggest.

While I know that 1995 planning figures played a significant role in the Lower East Coast process, more current actual figures should be used. Otherwise, the reader might assume that measures implemented within the past ten years (reclaimed water proliferation, water conservation measures, etc.) will have no impact.

Page O-4

Table O-4 – Of what value is the column entitled "1998 Annual Water Use". If this is just a typo and should be 1999 figures, then please correct them as noted above.

First paragraph – Should the word "Basin" be capitalized?

Figure O-2 – The value of this table is questionable at best, as far as we can tell.

Second paragraph – There should be a comma after the word "Summary".
Also, we really do not understand the relevance of this analysis, particularly this paragraph.

Page O-5 – There is an extra "s" at the end of the word "changes".

The regional reclaimed water system to which you refer is not, as far as we know, being developed – it is being studied. Its feasibility is seriously in question, and the report should more accurately reflect that status. The report should likewise note the successes of both Loxahatchee River District's and Seacoast's reclaimed water systems, including tables showing how much water these programs return to the resource each year (in MGY for sure, and in acre-feet if you must).
Table O-5 – The hydraulic connection of many, many of the listed properties to the Loxahatchee watershed simply does not exist.

Table O-1 – It is virtually impossible for the casual reader (e.g., Seacoast's Executive Director) to determine the relevance of this table. Respectfully, it seems to add extraneous data and thereby promote confusion.

APPENDIX O -- PUBLIC AND AGRICULTURAL WATER SUPPLY

CONTENTS

Public Water Supply ~~Demands~~ Uses

Include West Palm Beach's uses?

Revisit Ag figures; estimates seem VERY low; e.g.) Mecca Farms pumpage thru new North County model out of calibration

Water for urban and agricultural uses in the Loxahatchee watershed is supplied from both groundwater and surface water systems. Non-environmental surface water demands within the basin are primarily public water supply, commercial and industrial with some agricultural uses. The commercial and industrial demands vary greatly by type of business. In the Loxahatchee Watershed, commercial and industrial demands are less than one percent (1%) of the overall water demands. Because the demand is relatively small and difficult to generalize, an average demand was not calculated for this use category and emphasis was placed on estimation of agricultural and urban uses.

Total public water supply demands for the major utilities within this area for 1995 were estimated for the Lower East Coast Regional Water Supply Plan (LECRWSP -- SFWMD, 2000e) and are summarized in **Table O-1**. Total 1995 demands were estimated as 28,384 acre feet/year. Largest users within the watershed consisted of Seacoast Utilities (16,185 ac-ft/year), Town of Jupiter (10,629 ac-ft/year) and the ~~Town~~ Village of Tequesta. Together these three utilities represent more than 99% of the total urban water supply demand within the watershed.

Because public water supply withdrawals were an issue of concern in this watershed, additional analyses were undertaken by the SFWMD to update the analysis used in the LECRWSP. Recent monitoring and reporting data were analyzed as well as information provided in applications for permit renewals. This analysis and the results are described in detail in **Chapters 4 and 5**.

Table O-1. Urban water supply demands in the Loxahatchee Basin

Why not use last year after new G-92 & Lox Slough protocols in place, 1999 e.g.

Permittee	Permit Number	1995 Demands	
		Million Gallons/Year	Acre-feet/year
Seacoast (Hood Rd)	50-00365-W	3,536 ~~5,274~~	~~16,185~~
Town of Jupiter	50-00010-W	3,464	10,629
Tequesta	50-00046-W	515	1,579
PB Park Commerce	50-01528-W	4	11
Total		~~9,253~~	~~28,384~~

Source: SFWMD Unpublished Consumptive Use Permit Data

Only Seacoast use within the defined Lox River watershed

Agricultural Water Supply ~~Demands~~ Uses

A different procedure was adopted for estimating agricultural use in the Loxahatchee watershed because measured withdrawal data were not available. The procedure used was to estimate current water use based on Agricultural Field Scale Irrigation Requirements Simulation (AFSIRS) water demand modeling (Smajstrla 1990, Moraga et al. 1995), and current agricultural acreage (FDEP 1998). Agricultural water use depends on the crops that are grown in the watershed and on how those crops are managed and irrigated. An important factor in accurately estimating agricultural water use is determining the location and acreage of crops. Citrus and small vegetables are crops found in the basin. The supplemental irrigation requirements for 1995 are found in **Table O-2.**

Table O-2. Agricultural Demands for the Sub-Basins in the Loxahatchee River Basin.

Subbasin No.	Subbasin Name	1-in-2 Agriculture Demands (ac-ft/yr)	1-in-10 Agriculture Demands (ac-ft/yr)
1	Jonathan Dickinson/ Hobe Sound	3,032	5,123
2	Coastal	558	816
3	The Estuary	643	939
4	C-18/Corbett	6,201	10,478
5	Cypress/PalMar	4,335	7,324
6	The Groves	7,712	13,030
7	Wild & Scenic/Jupiter Farms	792	1,158
	Total	23,273	38,868

Sources: Smajstrla 1990, Moraga et al. 1995, FDEP 1998

Summary of Data from the SFWMD Water Use Permit Database

Water for urban supply, golf courses, landscape irrigation, and agricultural uses is supplied from three sources within the Loxahatchee watershed: surface water systems, the Surficial Aquifer System (SAS) and the Floridan aquifer. Use of the SAS, the traditional source for public water supply, is limited within most of the watershed due to increased potential for impacts on local wetland systems, the Loxahatchee River, and saltwater intrusion. In addition, the Jupiter/Tequesta area is not currently connected to the Central and Southern Florida Project, which provides a backup source of water for the majority of other Lower East Coast communities. For this reason, this watershed is more susceptible to the effects of drought and salt water intrusion during dry periods than other South Florida coastal areas. As a result, several municipalities (Jupiter and Tequesta) have gone to reverse osmosis (RO), utilizing the Floridan aquifer as their primary water supply source.

Northern Palm Beach County is expected to experience significant growth between now and 2020, primarily in coastal areas. In the Northern Palm Beach County planning area, public water supply demands are projected to increase by 63 percent, from 82.2 million gallons per day (MGD) in 1995 to 128.6 MGD in 2020. In contrast, agricultural demands (about 13 MGD) are projected to decrease by about 12 percent by 2020 (SFWMD 2002). No additional agricultural development is predicted to occur – in

fact some existing agricultural lands located near the headwaters of the Loxahatchee River (Loxahatchee Slough) may be displaced by future urban development (e.g., golf courses and residential units).

In this study, public water supply, landscape irrigation and agricultural water demands within the basin were estimated based on: (a) the annual allocation of each permit holder obtained from District records and (b) the average daily demand values used in the Northern Palm Beach County Comprehensive Water Management Plan hydrologic model (MODFLOW). Permitted withdrawals by use category for 1999 are summarized in **Figure O-1** and **Table O-3.** This is the same list of permitted users within the watershed that was used in the well package of the northern Palm Beach County model simulation.

What is the relevance of this stat? If it must be included, see corrected figures below.

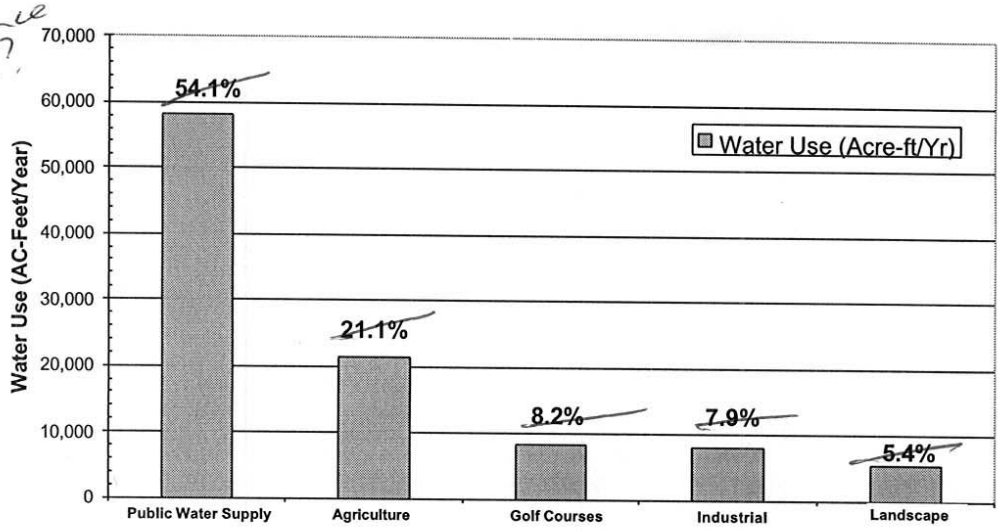

Figure O-1. Water Use in the Loxahatchee River Watershed -1999

Table O-3. Summary of Water Uses within the Loxahatchee Watershed for 1999.

Water Use Type	Million Gallon/Year	Acre-Feet/Year
Urban Water Supply	~~18,862~~	~~58,081~~
Agriculture	6,943	21,306
Golf Courses	2,705	8,303
Industrial	2,684	8,038
Landscape	1,767	5,422
Total	~~32,961~~	~~101,150~~

See Table C=1, Appendix C for summary of water use by individual permit

See corrected Seacoast figure, recalc total.

Overall, total urban water supply demands compiled for 1999 were ~~58,081~~ acre feet/year **(Table O-3)**. The largest users within the watershed consisted of the Seacoast Utilities-Hood Road wellfield (~~21,631~~ acre-feet/year), Town of Jupiter (30,825 acre-feet/year), and the Village of Tequesta (5,427 acre-feet/year). Together these utilities represent 53.8% of the total water supply demand within the watershed **(Table O-4).**

12,683

Table O-4. Summary of Urban Water Supply Demands within the Loxahatchee Watershed (MGY = Million Gallons/Year)

Permittee	Permit Number	1998 Annual Water Use (MGY)	2000 Annual Water Use (MGY)	1999 Allocations	
				MGY	Acre-feet/yr
Town of Jupiter (PWS)	50-00010-W	3442	3214	10,045	30,825*
Village of Tequesta (PWS)	50-00046-W	589	446	1,768	5,427*
Seacoast Utility- Hood Rd. (PWS)	50-00365-W	4604	4729	~~7,049~~	~~21,631~~
Palm Beach Park of Commerce	50-01528-W	N/A	N/A	65	198
Total				~~18,927~~	~~58,081~~

* Both the Town of Jupiter and the Village of Tequesta obtain a majority of their water supply from the Floridan Aquifer

Permitted allocation values were also compared to actual pumpage values submitted to the District by the permit holder to get a comparison of the amount of water actually used during normal operations and what is used during peak demand periods. **Figure O-2** provides a monthly summary of the three identified Public Water Supply permittees within the Loxahatchee basin comparing actual data as a percentage of permit allocations during the period from 1988 to 1999.

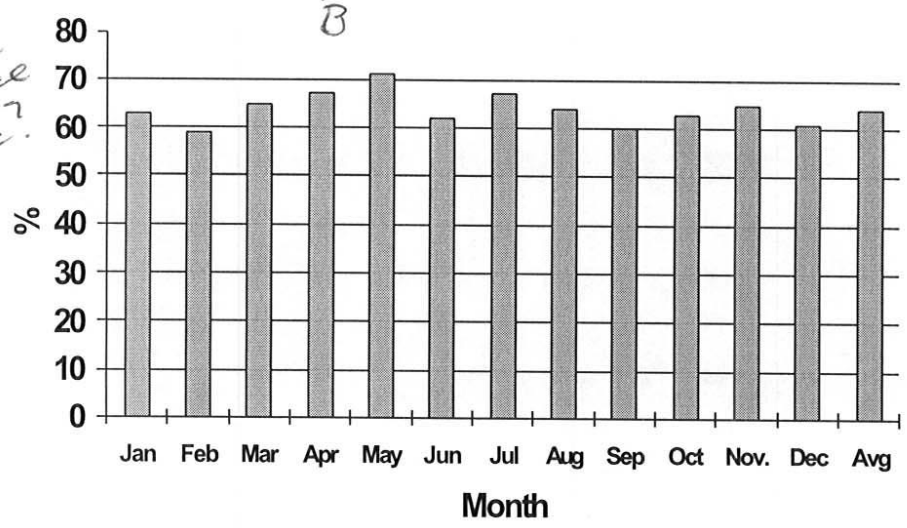

Figure O-2. Total Monthly Water Use by Jupiter, Seacoast (Hood Road Wellfield) and Tequesta expressed as a percentage of the total monthly allocation (996 million gallons per month) for these three Utilities.

In summary, the daily averages from the permit were compiled for each month and compared to values submitted from each utility, indicating that the actual pumpage values were, on average, between 60 and 70% of the allocation amount.

Use of traditional sources (surface water and the Surficial Aquifer System) for public water supply and landscape irrigation can be expanded for the Loxahatchee watershed with completion of the proposed water resource development projects outlined within the Lower East Coast Regional Water Supply Plan (SFWMD, 2000) and the Northern Palm Beach County Comprehensive Water Supply Plan (SFWMD, 2002) and more efficient use of regional and local water supplies. However, many of the projects

will not be completed within the next five years. Therefore the SFWMD is placing more emphasis on implementation of a comprehensive water conservation program and the use of alternative sources such as the Floridan Aquifer System and reclaimed water, to help meet water needs during this period. Some public water utilities and golf courses have supplemented their water demand with the use of the Floridan Aquifer System. Development of a regional irrigation water distribution system using reclaimed water is also underway with the users listed in **Table O-5** already on line. Continued development of such alternative sources, increased emphasis on water conservation, along with some changes to wellfield configurations and operations will help meet the 1-in-10 year level of certainty and reduce impacts to the Loxahatchee River and estuary within the next five years.

This is HIGHLY misleading.

① A "regional" system is not being "developed" it is being studied.

② The users listed, those that currently receive reclaimed water, are connected to Lox River District's or Seacoast's system, not a "regional system."

③ The failure to recognize existing successful reclaimed operations, both editorially and in evaluating regional resource impacts, is entirely inappropriate.

Why are these in the watershed? If these are included why not Jupiter Island and Indiantown Sand?

Table O-5 WATER SUPPLY DEMANDS WITHIN THE LOXAHATCHEE WATERSHED

Martin County			1996 Annual Water Use	1998 Annual Water Use	2000 Annual Water Use	1999 Allocations	
Land Use	Permittee	Permit Number	MGY	MGY	MGY	MGY	Ac-ft/Yr
AGR	SOUTH FLORIDA GRASSING	43-00021-W	N/A	N/A	N/A	289	887
	JENKINS LANDSCAPING	43-00045-W	N/A	N/A	N/A	67	206
	HOBE-ST LUCIE CONSERVANCY DISTRICT	43-00057-W	N/A	3072	5138	4460	13687
	SUNRISE-GULFSTREAM CITRUS GROVES	43-00120-W	N/A	N/A	N/A	545	1673
	SUNSHINE STATE CARNATION	43-00628-W	N/A	N/A	N/A	12	37
	SUN LAND CO	43-00839-W	0	0	0	974	2988
	SOUTH FLORIDA GRASSING INC	43-00893-W	N/A	N/A	N/A	410	1257
Sub Total						6757	20736
GOL	JUPITER HILLS CLUB	43-00054-W wr	N/A	66	234	58	177
*	MARINER SANDS COUNTRY CLUB	43-00064-W wr	201	586	618	298	914
	CYPRESS LINKS GOLF COURSE	43-00138-W	N/A	N/A	N/A	149	457
	TURTLE CREEK CLUB	43-00140-W wr	N/A	N/A	?	20	61
	EAGLEWOOD	43-00220-W wr	56	N/A	N/A	32	98
	JONATHANS LANDING GOLF CLUB,INC.	43-00221-W wr	104	91	N/A	237	728
*	JUPITER ISLAND GOLF COURSE	43-00273-W fl	92	138	309	16	50
*	THE MEDALIST	43-00800-W wr	?	?	N/A	46	141
Sub Total						855	2625
LAN	LITTLE CLUB CONDOMINIUM ASSOCIATION, INC. THE	43-00202-W	N/A	N/A	N/A	24	75
*	LOBLOLLY PINES DEVELOPMENT COMPANY	43-00382-W wr	N/A	194	184	106	325
	PRESERVE THE	43-00435-W	N/A	N/A	N/A	61	188
*	MARINERS SANDS LANDSCAPING	43-00441-W	N/A	3.7	4.9	69	213
	DOUBLE TREE COUNTRY CLUB	43-00632-W	N/A	N/A	N/A	154	473
	JUPITER HILLS HOMEOWNERS ASSOCIATION	43-00722-W	N/A	N/A	64	86	265
	RIVERSIDE MEMORIAL PARK	43-00885-W	N/A	0	N/A	23	70
Sub Total						524	1609

Table O-1. WATER SUPPLY DEMANDS WITHIN THE LOXAHATCHEE WATERSHED

Palm Beach County			1996 Annual Water Use	1998 Annual Water Use	2000 Annual Water Use	1999 Allocations	
Land Use	Permittee	Permit Number	MGY	MGY	MGY	MGY	Ac-ft/Yr
AGR	PARCEL 19.01	50-00547-W	N/A	N/A	N/A	167	511
	C-18 BASIN PROPERTY/MECCA FARMS	50-01626-W	N/A	N/A	N/A	19	59
Sub Total						186	570
GOL	TEQUESTA COUNTRY CLUB	50-00223-W [WR]	N/A	N/A	N/A	9	27
	SEMINOLE GOLF CLUB	50-00349-W	80	72	76	80	245
	PGA NATIONAL	50-00617-W	491	281	857	549	1685
	BALLENISLES CC OF JDM	50-00852-W [WR]	413	732	1344	171	524
	EASTPOINTE COUNTRY CLUB INC	50-00941-W [WR]	N/A	180	162	60	183
	STONEWAL ESTATES GOLF COURSE	50-01110-W	N/A	N/A	133	114	349
	OLD MARSH GOLF CLUB (UNIT 21)	50-01443-W	130	138	171	128	392
	IRONHORSE LAKE WELLS	50-01906-W	?	?	?	160	492
	INDIAN CREEK GOLF CLUB	50-02053-W [WR]	N/A	80	N/A	15	46
	IBIS GOLF & COUNTRY CLUB	50-02120-W	N/A	N/A	N/A	397	1219
	PUBLIC GOLF CORP. CITY OF PALM BEACH GARDENS	50-02319-W	N/A	N/A	N/A	40	123
	GOLF AND RACQUET CLUB AT EASTPOINTE	50-02831-W	N/A	180	162	44	135
	JUPITER DUNES	50-03079-W	N/A	46	N/A	39	119
	THE BEAR'S CLUB	50-04391-W [WR]	N/A	N/A	N/A	45	139
Sub Total						1850	5678
IND	WASTEWATER TREATMENT PLANT	50-00126-W	0	1.5	1.3	11	33
	TOWN OF JUPITER RECHARGE SYSTEM	50-01584-W	61	2.1	11	0	0
	PRATT & WHITNEY PUMP ADDITION	50-01663-W	N/A	N/A	2250	2466	7568
	NORTH COUNTY AQUATIC COMPLEX	50-02869-W	N/A	N/A	N/A	38	116
	MOBIL OIL STATION 02-F2W	50-02995-W	N/A	11	9.5	12	36
	TRI GAS INC AIR SEPARATION PLANT	50-03722-W	N/A	37	34	93	285
Sub Total						2619	8038

Table O-1. WATER SUPPLY DEMANDS WITHIN THE LOXAHATCHEE WATERSHED

Palm Beach County			1996 Annual Water Use	1998 Annual Water Use	2000 Annual Water Use	1999 Allocations	
Land Use	Permittee	Permit Number	MGY	MGY	MGY	MGY	Ac-ft/Yr
LAN	FRENCHMAN'S CREEK GOLF COURSE	50-00091-W	N/A	N/A	N/A	87	267
	JONATHAN'S LANDING	50-00237-W	208	211	285	319	979
	FPL JUNO BEACH OFFICE BUILDING	50-00742-W	N/A	N/A	N/A	15	46
	SEA OATS OF JUNO BEACH	50-01131-W	N/A	N/A	N/A	16	48
	OCEANSIDE TERRACE	50-01204-W	N/A	N/A	N/A	2	6
	RIDGE AT THE BLUFFS, H.O.A.	50-01282-W	88	104	73	52	158
	RIVER THE	50-01373-W	N/A	N/A	N/A	22	66
	JUPITER BAY	50-01391-W	N/A	4.24	N/A	8	26
	VILLAS OF OCEAN DUNES HOA	50-01392-W	N/A	N/A	N/A	18	56
	CRYSTAL POINTE	50-01442-W	N/A	N/A	N/A	14	44
	CROSSWINDS JUPITER SOUTH	50-01484-W	N/A	N/A	N/A	1	4
	SHORES THE	50-01485-W	N/A	N/A	N/A	0	0
	NORTHPOINT CORPORATE PARK	50-01490-W	N/A	N/A	N/A	34	104
	PALM BEACH PARK OF COMMERCE	50-01529-W	N/A	N/A	N/A	110	339
	ADMIRAL'S COVE AND ADMIRAL'S COVE WEST	50-01552-W	N/A	101	N/A	132	405
	INDIAN CREEK	50-01557-W	18	N/A	24	63	193
	PRATT & WHITNEY - IRRIGATION WATER SUPPLY	50-01664-W	N/A	N/A	N/A	38	116
	HAMPTON'S AT MAPLEWOOD THE	50-01702-W	N/A	N/A	N/A	50	152
	MARQUETTE ELECTRONICS	50-01842-W	N/A	N/A	N/A	5	16
	HIGH SCHOOL "GGG"	50-01955-W	N/A	N/A	N/A	30	93
	PALM BEACH MIDDLE SCHOOL A-A	50-02267-W	N/A	N/A	N/A	21	66
	BALLENISLES DEVELOPMENT	50-02370-W	N/A	N/A	118	70	215
	JUPITER PLANTATION	50-02871-W	N/A	N/A	N/A	15	47
	EASTLAKES PROPERTY OWNERS ASSOCIATION	50-03281-W	47	29	N/A	40	124
	EASTPOINTE PROPERTY OWNERS ASSOCIATION	50-03282-W [wr]	72	74	90	70	215
	THE SANCTUARY & FLAMINGO ROAD	50-03401-W	N/A	N/A	N/A	9	28
Sub Total						1243	3813

Received from Rim Bishop on September 17, 2002
John,

I may have misplaced it, but would you send me a copy of the Exhibit discussed in the following August 2 e-mail please?

Also, is there a more current draft of the MFL documents, one dated later than July 25 edition? We pulled the current draft down from the SFWMD web site and found that none of our August 2 or August 6 comments have been incorporated.

Essentially, I need to know whether SFWMD will be incorporating our comments or not. As you can see, we have put considerable effort into this, and I must evaluate whether further participation in the public process will be useful.

Finally, here are a few additional comments on the Loxahatchee River and Estuary MFL document July 12 draft that I hope you will find helpful.

1. Page 156, first bullet under "Phase 2 ..." - with culverts connecting the Loxahatchee Slough to the C-18 having already been boarded by PB County Dept. of Environmental Resources Management, please identify how construction of the G-160 structure will generate 5,000 acre feet of ADDITIONAL storage. We are having difficulty identifying any storage made available by the structure other than that which is within the C-18 canal section itself, and that doesn't seem to amount to 5,000 acre feet.

2. We renew our request for Exhibit I. We would very much appreciate the opportunity to have our hydrologist review and comment.

3. We would again draw your attention to our August 6, 2002 transmittal and respectfully request that our comments be fully incorporated into the next draft.

Thank you so much for your assistance. If you require further information, I hope that you will not hesitate to contact me.

Received from Rim Bishop on October 2, 2002
John, here are a few Seacoast comments on the draft Appendix I to the Lox River MFL, Exhibit I document. Please forward them to the appropriate parties.

1. Page I-3 - I know that the scale of this map is small, but the distinction that I am about to make is VERY important. Looking at the map, one might get the impression that Seacoast operates wells located west of the turnpike, near the Slough. First, the word wellfield(s) should be singular - only the Hood Road wellfield is located in the general vicinity shown. Second, the Hood Road wellfield is EAST of the turnpike, not west. It is also SOUTH of Hood Road.

2. Page I-6 - Beginning in 1997, Palm Beach County DERM boarded up old water control structures, thus causing the Slough to retain the storm water that, during the 1988 -1995 Actual Pumpage period, was runoff to the C-18. In addition, in 2001, the Mirasol (Golf Digest) surface water management system was implemented, also changing the hydrology from conditions that existed in the 1988 - 1995 period. These are substantial and material changes, and the report does not appear to consider them.

Finally, to repeat a comment submitted to you earlier, we question whether Lox Slough leakance factors applied to the model correspond to field observations (e.g., water level readings) taken in the Slough after PB County DERM boarded it up in 1997. Seacoast's observations indicate that once water levels in the Slough were raised, they remained high longer than originally anticipated. Thus, where the Slough was a C-18 contributor via runoff before 1997, it is much less so now via percolation, and we are not certain that the model accurately reflects that low percolation rate.

Thank you again for the opportunity to comment. If you wish to discuss these comments, I hope that you will not hesitate to call.

Received from Rim Bishop on October 2, 2002

John, we'd like to offer the following technical review comments to supplement the e-mail submittal I sent earlier today.

We generally ask our technical consultants to review document drafts, ours or those of others, as though the consultant were serving as an expert witness for a party pursuing a legal challenge. That type of intense review usually uncovers assailable flaws and allows us the opportunity to address them before the document is released.

Of course, that is by no means Seacoast's perspective, but we find that properly framing our requests for professional assistance adds context, and consequently substance, to our consultants' review. We hope that you accept our comments in the highly constructive spirit in which they are intended.

Thanks again for your serious consideration.

Received from Rim Bishop on October 2, 2002

TECHNICAL COMMENTS ON DRAFT APPENDIX I, LOX RIVER MINIMUM FLOWS AND LEVELS DOCUMENT

The author heavily qualifies the capability of the model to estimate with any accuracy surface-water flows when he states.

"The code does not incorporate a surface/groundwater module" and "overland flow and associated surface water routing through canal networks is not directly simulated and the effects of consumptive use withdrawals on overland and riverine flows should only be considered as gross estimates." (p. I-1).

Although the SFWMD version of MODFLOW-96 appears to have a Wetland and Diversion Package and an Operations Package, it appears that "the code utilized in this report does not incorporate a surface/groundwater module" and "overland flow and associated surface water routing through canal networks is not directly simulated and the effects of consumptive use withdrawals on overland flows should only be considered as gross estimates". (p. I-2).

"MODFLOW is a groundwater model that does not have the capability of simulating storm-driven events". (p. I-5).

"For calibration of flow, absolute errors were less than 10 cfs during 55 percent of the simulation period." This is another way of saying that absolute errors were equal to or greater than 10 cfs during 45 percent of the simulation period." Ten (10) cfs represents 40 percent of the recorded mean flow of 24.1 cfs, a considerable error. (p. I-5)

These statements do not provide any encouragement that the model has any value in establishing or defending MFLs for the Loxahatchee. In addition, the following points must be noted.

The method of converting stages observed or predicted at Lainhart Dam to flows by means of the "weir equation" is not documented here. (p. I-5).
The 10 cfs absolute error is significant (p. I-5)

Under "Model Application", what "proposed" surface water systems are referenced at the bottom of page I-5?

The title of the third simulation (p. I-6) should be "Currently Permitted" model run as it is based on recent permits rather than those in the earlier data periods.

If "variations in withdrawal rates due to seasonal changes were not taken into account" in the "Permitted" model run, does that mean the rates used were annual allocation rates

rather than maximum-day or maximum-month rates? This is probably true but needs clarification. It may be explained in an earlier report.

There is no explanation for how the data from the model were "adjusted" to represent an average rainfall year and drought conditions. (p. I-6) Were these input or output data? This may have been explained in an earlier report but is not clear here.

It is unclear from Table I-1, which flows are actual and which ones are predicted. What does it mean that the flows delivered to Lainhart Dam were estimated from the model and "adjusted" to equal actual flows? (p. I-8)

The percent reduction in flows for each of 3 classifications was discussed. What were the withdrawal rates for the 3 classifications?